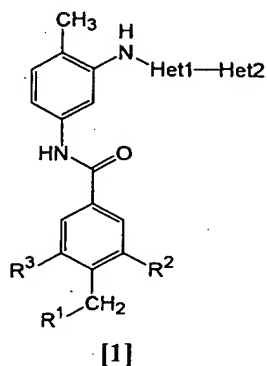


CLAIMS

1. An amide derivative, which is a compound represented by the following formula [1] in any of the following cases (A) and (B), or a salt thereof.



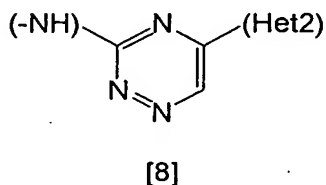
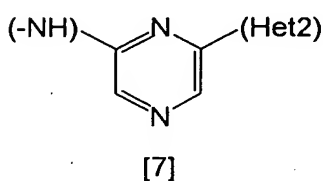
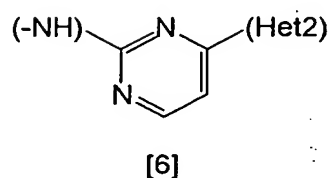
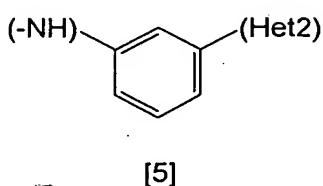
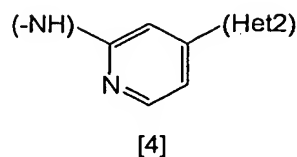
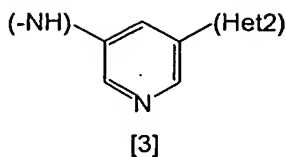
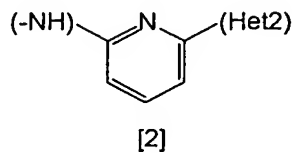
(A)

R^1 represents a saturated cyclic amino group (the saturated cyclic amino group may be substituted by 1 to 3 same or different members selected from the group consisting of alkyl, alkoxy carbonyl, halogen, haloalkyl, hydroxyalkyl, amino, monoalkylamino, dialkylamino, carbamoyl, monoalkylcarbamoyl and dialkylcarbamoyl), monoalkylamino or dialkylamino.

R^2 represents alkyl, halogen, haloalkyl, hydroxyalkyl, alkoxy, alkoxyalkyl, alkoxy carbonyl, acyl, amino, monoalkylamino, dialkylamino, nitro, carbamoyl, monoalkylcarbamoyl, dialkylcarbamoyl or cyano.

R^3 represents hydrogen, halogen or alkoxy.

Het1 represents any of groups of the following formulas [2] to [8].



Het2 represents pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl or 1,2-dihydropyridazinyl (the Het2 may be substituted by 1 to 3 same or different members selected from the group consisting of alkyl, halogen and amino).

Exception is made for a compound wherein R^1 is (i) pyrrolidinyl, piperidinyl, piperazinyl or morpholinyl, all of which may be substituted by 1 to 3 same or different members selected from the group consisting of alkyl, alkoxycarbonyl, halogen, haloalkyl, hydroxyalkyl, amino, monoalkylamino, dialkylamino, carbamoyl, monoalkylcarbamoyl and dialkylcarbamoyl, (ii) monoalkylamino, or (iii) dialkylamino, Het1 is a group of the formula [6], and Het2 is pyrazinyl or pyridyl which may be substituted by alkyl.

(B)

R¹ represents 4-methylpiperazin-1-yl, 1-pyrrolidinyl, piperidino, 4-ethylpiperazin-1-yl, 4-n-propylpiperazin-1-yl, cis-3,5-dimethylpiperazin-1-yl, morpholino, dimethylamino or diethylamino.

R² represents methyl, halogen, trifluoromethyl, methoxy, methoxycarbonyl, nitro, dimethylcarbamoyl or cyano.

R³ represents hydrogen, bromo or methoxy.

Het1 represents a group of the formula [6].

Het2 represents 3-pyridyl.

2. The amide derivative according to claim 1, or a salt thereof, wherein R¹ is a saturated cyclic amino group (the saturated cyclic amino group may be substituted by 1 to 3 same or different members selected from the group consisting of alkyl and alkoxy carbonyl), monoalkylamino or dialkylamino,

R² is alkyl, halogen, haloalkyl, alkoxy, alkoxy carbonyl, nitro, dialkylcarbamoyl or cyano,

R³ is hydrogen, halogen or alkoxy,

Het1 is any of groups of the formulas [2] to [8], and

Het2 is pyridyl, pyrimidinyl, pyrazinyl, pyridazinyl or 1,2-dihydropyridazinyl (the Het2 may be substituted by 1 to 3 same or different halogen).

3. The amide derivative according to claim 1, which is a compound selected from the group consisting of the following compounds (1) to (40), or a salt thereof:

- (1) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide
- (2) 3-iodo-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (3) 3-chloro-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (4) 3-fluoro-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (5) 4-(4-methylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (6) 4-(4-methylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (7) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(2-pyrazinyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (8) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{3-[4-(6-chloropyridin-3-yl)pyrimidin-2-ylamino]-4-methylphenyl}benzamide,
- (9) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{3-[4-(5-bromopyridin-3-yl)pyrimidin-2-ylamino]-4-methylphenyl}benzamide,
- (10) 4-(4-methylpiperazin-1-ylmethyl)-3-trifluoromethyl-N-{3-

[4-(5-bromopyridin-3-yl)pyrimidin-2-ylamino]-4-methylphenyl}benzamide,

(11) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{3-[4-(1,2-dihydropyridazin-4-yl)pyrimidin-2-ylamino]-4-methylphenyl}benzamide,

(12) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridazinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(13) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,

(14) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyridin-2-ylamino]phenyl}benzamide,

(15) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(5-pyrimidinyl)pyridin-2-ylamino]phenyl}benzamide,

(16) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[2-(3-pyridyl)pyridin-6-ylamino]phenyl}benzamide,

(17) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[3-(3-pyridyl)pyridin-5-ylamino]phenyl}benzamide,

(18) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[3-(3-pyridyl)phenylamino]phenyl}benzamide,

(19) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[2-(3-pyridyl)pyrazin-6-ylamino]phenyl}benzamide,

(20) 3-bromo-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[5-(3-pyridyl)-1,2,4-triazin-3-ylamino]phenyl}benzamide,

(21) 3-methyl-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,

- (22) 4-(4-methylpiperazin-1-ylmethyl)-3-nitro-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (23) 3-methoxy-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (24) 3,5-dibromo-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (25) 3,5-dimethoxy-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (26) 3-(N,N-dimethylcarbonyl)-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (27) 3-bromo-4-(4-ethylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (28) 3-bromo-4-[4-(n-propyl)piperazin-1-ylmethyl]-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (29) 3-bromo-4-(N,N-dimethylaminomethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (30) 3-bromo-4-(N,N-diethylaminomethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (31) 3-bromo-4-(1-pyrrolidinylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (32) 3-bromo-4-(piperidinomethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (33) 3-bromo-4-(morpholinomethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,

- (34) 3-bromo-4-(cis-3,5-dimethylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (35) 3-bromo-4-(4-methyl-hexahydro-1H-1,4-diazepin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (36) 3-bromo-4-(1-piperazinylmethyl)-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (37) 4-[4-(t-butoxycarbonyl)piperazin-1-ylmethyl]-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (38) 4-(1-piperazinylmethyl)-3-trifluoromethyl-N-{4-methyl-3-[4-(5-pyrimidinyl)pyrimidin-2-ylamino]phenyl}benzamide,
- (39) 3-methoxycarbonyl-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide,
- and
- (40) 3-cyano-4-(4-methylpiperazin-1-ylmethyl)-N-{4-methyl-3-[4-(3-pyridyl)pyrimidin-2-ylamino]phenyl}benzamide.

4. A pharmaceutical composition comprising the amide derivative of any one of claims 1 to 3 or a salt thereof as an active ingredient.

5. A BCR-ABL tyrosine kinase inhibitor comprising the amide derivative of any one of claims 1 to 3 or a salt thereof as an active ingredient.

6. A therapeutic agent for chronic myelogenous leukemia comprising the amide derivative of any one of claims 1 to 3 or a salt thereof as an active ingredient.

7. A therapeutic agent for acute lymphoblastic leukemia comprising the amide derivative of any one of claims 1 to 3 or a salt thereof as an active ingredient.

8. A therapeutic agent for acute myelogenous leukemia comprising the amide derivative of any one of claims 1 to 3 or a salt thereof as an active ingredient.